Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

living entities, in their appropriate environment. While his delivery in speaking was not free from a certain mannerism, he held his audience and imbued it with the interest which he felt for his subject.

He was ever ready to leave his work, to give freely his time to all visitors, and advice to those who sought it; and this trait endears his memory to the many pupils and others who profited by his kindness.

He was one of that very small group of American Professors who feel it to be both a duty and a pleasure to maintain a close personal relation with their students, imparting to them an influence that is more far-reaching than their lectures.

1893. RAPHAEL PUMPELLY.

WILLIAM PETIT TROWBRIDGE.

WILLIAM PETIT TROWBRIDGE was born at Strawberry Hill, near Birmingham, Oakland County, Michigan, May 25, 1828. He died suddenly of heart trouble on August 12, 1892. He was married on April 21, 1857, at Savannah, Georgia, to Miss Lucy Parkman. His wife, three sons, and three daughters survive him.

He graduated at the head of his class from the United States Military Academy at West Point in 1848, and during his last year there he acted as Assistant Professor of Chemistry, although he was only nineteen years old. After graduation he became Second Lieutenant of the Engineer Corps, and was ordered to West Point as assistant in the Astronomical Observatory, where he served two years, till 1850. He was then ordered, at his own request, to duty on the Coast Survey, where he remained until 1856, winning his first lieutenancy in 1854. His work on the Coast Survey was as follows. He worked at first upon the triangulation of the coast of Maine, which was placed in his charge in 1852; he also worked along the Appomattox River below Petersburg, and the James River below Richmond, in Virginia, and a part of the time along the Pacific slope; this last occupying him from 1853 to 1856. While in Virginia, he urged the importance of constructing the Dutch Gap Canal, which was actually accomplished during the civil war.

His work on the Pacific slope was tidal and magnetic as well as geodetic, and covered a length of coast of over 1,300 miles. His tidal gauges recorded the earthquake waves emanating from Simoda, Japan, December 23, 1854, two months before information of the occurrence reached this country by steamer. In 1856 he left the Coast Survey, and became Professor of Mathematics in the University of Michigan; but in 1857 he returned to the Coast Survey as Scientific Secretary, residing in Washington, D. C., retaining this position till 1862. Before the civil war he established the first permanent observatory in this country for the automatic registration of magnetic variations at Key West, and also prepared for publication the results of the exploration of the Gulf Stream. At the beginning of the war he was called upon to prepare a minute description of the harbors, inlets, and rivers of the southern coast, from Delaware Bay to Galveston; and also to determine whether Narragansett Bay would be a suitable location for a navy yard station, or not.

During the rest of the war he had charge of the branch office of the War Department in New York City, and acted as agent in the supply of material, and as constructor of local fortifications. He built the forts at Willett's Point and on Governor's Island, and made the repairs of Fort Schuyler.

From 1865 to 1871 he was Vice-President of the Novelty Iron Works, New York, of which Mr. Horatio Allen was President. The latter had been the first to introduce the locomotive in America, in 1829. He had also designed the early American locomotives run in South Carolina, and the Novelty Works had designed and constructed the first Transatlantic steamers of the Collins line; and during the civil war they had a great deal to do in the construction and alteration of vessels and machinery. During his connection with these works he carried out a series of experiments to determine the water consumption per horse power per hour of a series of steam-engines at different points of cut-off. These experiments were among the earliest of their kind, and led the practice of engine builders for years.

From 1871 to May, 1877, Mr. Trowbridge was Professor of Dynamic Engineering in the Sheffield Scientific School of Yale College, where he built up his new department, and planned and constructed the new Sheffield Hall in which the engineering instruction is given.

From 1877 until his death, in 1892, he held the Professorship of Engineering in Columbia College, New York. There were added to the courses as they existed before his incumbency, successively, courses in thermodynamics, dynamics of machinery, and water supply engineering, while the engineering courses already existing were enormously developed. In this he was aided by Professors F. R. Hutton and H. S. Monroe.

While at the Novelty Iron Works he designed a cantilever bridge for the East River at Blackwell's Island, and a company was formed in 1869–70 to carry out the project, but the panic of 1873 put an end to all efforts to build it. While at the Sheffield School, he designed a coil boiler, intended to incorporate the most advanced ideas of forced circulation of water, automatic supply of feed water from a magazine, and self-feeding of fuel. Its manufacture was turned over to a company. He also gave much thought to deep-sea sounding. He was a member of the Century Club; was Adjutant General of Connecticut from 1870 to 1876; commissioner for building a bridge across the Quinnipiac River from 1870 to 1876; commissioner for building the Capitol at Hartford from 1873 to 1878; commissioner for establishing harbor lines at New Haven from 1872 to 1878; and he was also one of the three commissioners appointed by Governor Cornell to examine the State Capitol at Albany.

He was a member of the New York Academy of Sciences, of the American Society of Mechanical Engineers, an Associate Fellow of the American Academy of Arts and Sciences, and also of the National Academy of Sciences.

He received the degree of A. M. from Rochester University in 1856, and from Yale in 1870; of Ph. D. from Princeton in 1880; and that of LL. D. from Trinity in 1882, and from Michigan University in 1887. In 1880 he was at the head of the Department of Power and Machinery for the Tenth Census. The treatise which he published on Heat and Steam is well known among engineers.

The following is a list of his works in the United States Coast and Geodetic Survey Reports: —

1851. Triangulation, Maine.
1852. Triangulation, Maine. Triangulation, Appomattox River.
1853. Triangulation, James River. Tides of the Western Coast.
1854. Tidal and Magnetic Observations. Eclipse Observations.
1855. Tidal and Magnetic Observations. Earthquake Waves. Description of Bodega Bay.
1856. Tides, Hudson River.
1857. Wind Observations.
1858. Office Work. Law of Descent of Weight in Deep-sea Soundings Comparative Cost and Progress of Geodetic Surveys. Cost and Progress of Coast Survey Work.
1859. Researches. Deep-sea Sounding Apparatus.
1860. Gulf Stream Examinations. Report on Magnetic Station at Key West.
1861. Hydrography, Bristol Bay. Report on Sounding Apparatus.
1874. Magnetic Observations at Key West between 1860 and 1866.

While possessing great professional ability, and profound technical knowledge, he was a very genial and also a very conscientious and modest man, and one who won the admiration and regard of all who came in contact with him.

In closing, I must make my acknowledgments to Professor F. R. Hutton, who has kindly furnished me with most of the facts from which to compose this short paper.

1893. GAETANO LANZA.

GEORGE VASEY.

GEORGE VASEY, for many years Chief Botanist in the Department of Agriculture, died at his home in Washington, March 4, 1893. His illness was of brief duration, and although he had attained an advanced age, he was until several days before his death exceptionally regular in performing the arduous and time-consuming duties of his position. His work entailed a wide correspondence, and it was thus that many botanists throughout the country and abroad came to appreciate his kind assistance. His letters, however, were chiefly of a professional nature, and many of his colleagues knew little or nothing of his personal history.

Born near Scarborough, England, February 28, 1822, he was brought in early childhood by his parents to Western New York, where the family settled at Oriskany, Oneida County, not far from the birthplace of Asa Gray. George Vasey, being one of a large family in humble circumstances, received only a meagre schooling, and at the age of twelve began work in a store. He early became interested in the plants of the region, and derived his first botanical knowledge of them from Mrs. Lincoln's Botany, a little volume of quaint diction, now almost forgotten. So anxious was he to possess this work, that, not being able to buy it, he copied the text entire. His botanical interest soon attracted the attention of Dr. Knieskern, who brought him to the notice of Professors Torrey and Gray. Having begun the study of medicine at the age of twenty-one, and having been graduated from the Berkshire Medical Institute at Pittsfield, Massachusetts, in 1846, Dr. Vasey removed in 1848 to Illinois, where he spent eighteen years in the practice of medicine, chiefly at Ringwood and Elgin. Here he had an excellent opportunity to observe the rich prairie vegetation, and made extensive collections, which have a high historic value, since they show the native flora before it had been so greatly impaired and displaced by the present exhaustive cultiva-